

Patent claims

1. An operator control element for motor vehicles having

- 5 - a fixed base body (1),
- a handle (3) which is mounted so as to be capable of rotating about an axis (2) in the base body (1),
- display windows (10) which are arranged radially around the axis (2), and
- 10 - an illumination device for illuminating at least one of the display windows (10),
characterized in that
 - the illumination device has a plurality of light sources (7) which are arranged radially around the axis (2) of the handle (3) on the fixed base body (1) and can be switched individually,
 - a lightguide element (5) is permanently connected to the handle (3) and has a light input face, which is successively moved past the light sources (7) when the handle (3) rotates, and a light output face, which is assigned to a photosensitive element (5), and
 - the photosensitive element (5) is connected to an electronic circuit (9) for evaluating the output signal of the photosensitive element (5), it being possible to determine a rotary position of the handle (3) by successively switching the light sources (7) and evaluating the output signal of the photosensitive element (5).

- 2. The operator control element as claimed in claim 1, characterized in that in each case one of the light sources (7) irradiates both into the input face of the lightguide element (5) and illuminates one of the display windows (10).

- 3. The operator control element as claimed in claim 1, characterized in that the photosensitive

element (5) is arranged on a printed circuit board (6) of the base body (1) which extends perpendicularly with respect to the axis (2).

5 4. The operator control element as claimed in one of the preceding claims, characterized in that the photosensitive element (5) is arranged in the axis (2) of the handle (3).

10 5. The operator control element as claimed in one of the preceding claims, characterized in that a plurality of photosensitive elements (5) are provided.

15 6. The operator control element as claimed in one of the preceding claims, characterized in that the operator control element is embodied as a rotary switch.

20 7. The operator control element as claimed in one of the preceding claims, characterized in that the operator control element is a component of an operator control unit for a motor vehicle air-conditioning system and supplies a setting value for a control unit of the air-conditioning system.

25 8. A method for determining the rotary position of a rotatable operator control element in which a plurality of light sources (7) are arranged radially around an axis (2) of the operator control element, light from one of the light sources (7) being fed to a photosensitive element (5) as a function of the rotary position of the operator control element, having the following method steps:

- the light sources (7) are switched on and off successively,
- the signal of the photosensitive element (5) which is detected during the successive switching on and off of the light sources (7) is evaluated in order to generate a signal sequence,

- the signal sequence which is obtained in this way is compared with stored signal sequences to which a position value has been assigned,
- when the signal sequence which is determined 5 corresponds to a stored signal sequence, the associated position value is further processed as a setting value of a motor vehicle component.